WinTrend

WT-3020 3D AUDIO CARD
USER MANUAL

FCC Warning

This device complies with Part 15 of the FCC Rules.
Operation is subject to the following two conditions: (1) this
device may not cause harmful interference, and (2) this
device must accept any interference received, including
interference that may cause undesired operation.

Information to the User

This equipment has been tested and found to comply with the limits for a class
B digital device pursuant to part 15 of FCC Rules. These limits are designed to
provide reasonable protection against harmful interference in a residential instal-
lation. This equipment generates, uses, and can radiate radio frequency energy
and, if not installed and used in accordance with the instructions, may cause
harmful interference to radio communications. However, there is no guarantee
that interference will not occur in a particular installation. If this equipment
does cause interference to radio or television reception, which can be determined
by turning the equipment off and on, the user is encouraged to try to correct the
interference by one or more of the following measures:

-Reorient or relocate the receiving antenna.

-Increase the separation between the equipment and receiver.

-Connect the equipment into an outlet on a circuit different from that to
  which the receiver is connected.

-Consult the dealer or an experienced radio/TV technician for help and for
  additional suggestions.

The user may find the following booklet prepared by the Federal Communica-

Problems." This booklet is available from the U.S. Government Printing Office,
Washington, D.C. 20402, Stock No. 004-000-00345-4.

FCC Warning

The user is cautioned that changes or modifications not expressly approved by
the manufacturer could void the user's authority to operate the equipment.

Warranties and disclaimer

The actual physical dimensions and capabilities of the product may differ slightly from illustrations contained within this manual. Every effort has been made to ensure that electrical functionality is maintained wherever possible.

Specifications subject to change without notice. No warranties are expressed or implied.

All names are registered and unregistered trademarks of their respective corporations.

Contents

CHAPTER 1 QUICK START

Windows 95®

1. Remove the cover of the PC.

2. Install the WinTrend WT-3020 board into a vacant PCI slot.

3. Plug the system's CD player cable into the CD IN port of the WT-3020 board.

4. Plug speakers into the WinTrend WT-3020 board LINE OUT port.

5. Replace the system's cover.

6. At bootup, Windows 95® will automatically detect the new hardware on the WinTrend WT-3020 board. The chapter on "Software Installation and Removal" describes the procedures to follow. These procedures require both the WinTrend-supplied CD-ROM and the Windows 95 installation CD-ROM (or diskettes), and you will be prompted on when to swap CD-ROMs. A brief overview follows. The software installation chapter should be consulted for details.

7. In response to the message at boot up referring to *PCI Multimedia Audio Device*, insert the WinTrend-supplied CD into the drive, select the option "Other Location". Use the Browse function to navigate to the driver directory on the WT-3020 CD. E.g. **D:\Win95\Drivers** Select the sub-folder with desired language. When Windows finds another new hardware enter the same directory to install. Insert the Windows CD-ROM when prompted.

CHAPTER 2 INTRODUCTION AND OVERVIEW

Features

WinTrend WT-3020

The Wintrend WT-3020 board shares the following features:

- Microsoft DirectSound® DSP-based hardware acceleration
- Microsoft DirectSound3D®
- Yamaha® XG Wavetable Synthesizer with chorus, Vibration and reverb effects including General MIDI (GM)
- MPU-401 MIDI port UART mode
- Game Port support
- 32-bit PCI bus master
- Legacy SB Pro

Processor

YAMAHA® 724DS-1

144-pin Quad Flat Pack (QFP)

CODEC Interface Compatibility

AC97 codec

Bus Type

32-bit PCI (33MHz PCI 2.1 compliant)

PCI burst and PCI bus mastering supported

Inputs

CD-Audio

AV Audio In

Aux In

LINE IN

PCBEEP

PHONE

JOYSTICK/MIDI IN

MIC IN

Outputs

LINE OUT

MONO OUT

SPDIF OUT

MIDI Interface

MPU-401 UART mode

MIDI IN and OUT

Game port Interface

Analog mode

HSP Wavetable Synthesizer Specifications

Up to 32-voice polyphony

Full 16 MIDI Channel multi-timbral General MIDI sound set

2MB sample set, downloadable samples to system RAM

Environmental

Ambient Operating Temp.	0 C to + 70 C
Storage Temp.	65 C to 150 C
Supply Voltage to Ground Potential	-0.5v to 7.0v
Applied Input Voltage	0.5v to 7.0v

Minimum System Requirements

- Pentium®-based PCI bus PC, Pentium® 133MHz (minimum)
- 256k bytes cache (minimum)
- 16M bytes DRAM (minimum), 32M bytes DRAM (recommended)
- Operating System: Windows 95® or Windows 98®
- CD-ROM drive
- Set of stereo PC speakers (powered)
- Microphone (optional for voice recording)

Board Physical Characteristics

- 5V PCI Short Card

I/O Connectors

- PCI bus edge connector: 5V / 32-bit only
- PC Speaker Input
- Line_Out output (3.5mm female stereo jack)
- Line_In input (3.5mm female stereo jack)
- Microphone input (3.5mm female stereo jack)
- SPDIF Output (RCA Jack)
- CD-ROM Audio, AUX IN, AV Audio , PCBeep, TAD I/O
- DB15, MIDI/GAME port connector

CHAPTER 3 HARDWARE INSTALLATION AND SETUP

Board Installation

1. Power down the PC and remove the cover.

2. Identify a vacant PCI slot, remove any rear blanking panel and install the WT-3020 board.

3. For systems with a CD-ROM drive connected locally, connect the CD-ROM drive to the WT-3020 board with the CD-ROM audio cable provided

CHAPTER 4 SOFTWARE INSTALLATION AND REMOVAL

If upgrading:
> If the WT-3020™ drivers are being reloaded or upgraded, **remove the current drivers before installing new drivers.** For Windows 95, use the "Uninstalling WT-3020" procedure, page 10. If you have started up with the new board present, the system will detect it and attempt to initiate software installation. Cancel out of software installation, uninstall the prior drivers, and restart the system.

Disk Alert:
> The installation CD-ROM for your Windows system is needed to complete the installation of the WT-3020™ Drivers. The Windows® CD-ROM provides supplementary drivers that are not installed when a "Typical" Windows installation is performed.

New Hardware Found-Windows 95 OEM Service Release 2.x

Note on Windows modules:
> As new hardware components are found, you will be prompted to insert the WinTrend-supplied or the Windows installation CD-ROM into the drive as a source of required software modules. The following procedure reflects the need to install Windows modules not installed for the choice of a "Typical" installation. These Windows modules include support for sound recording, volume control, and a joystick. Your system may have some or all of the Windows modules already installed, in which case your WT-3020 installation will not require the Windows CD at some or all of the steps indicated.

1. Windows 95® automatically detects new hardware during startup and starts the *Update Device Driver Wizard.* Insert the WinTrend-supplied CD into the CD-ROM drive, if not yet inserted.

2. Click on **Next** to continue.

3. If the installation program cannot locate the driver, click on **Other Locations.**
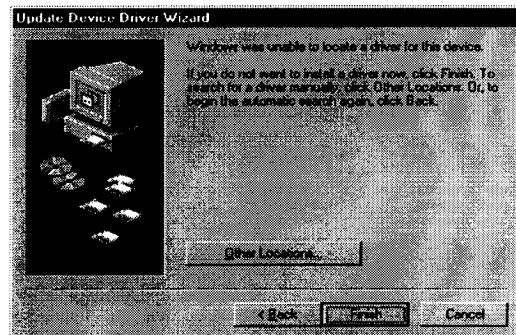
4. Click on the CD-ROM drive that contains the Wintrend WT-3020 driver. Select the desired language under the **Win95\drivers\English** folder.
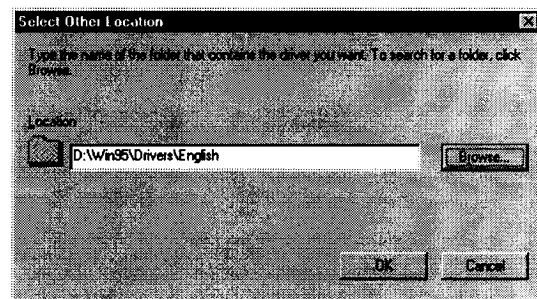
5. Click **OK** when done.
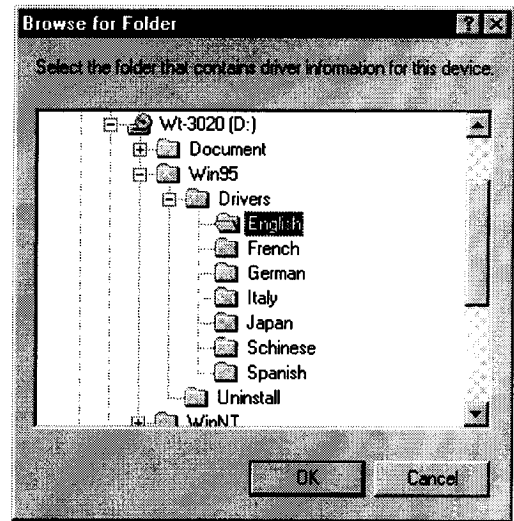
6. When Windows find the proper hardware, click on **Finish** to accept.

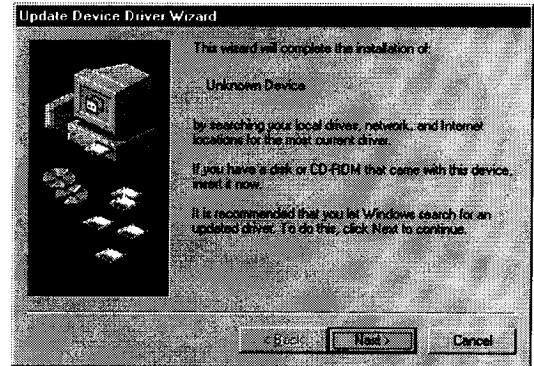7. The system will issue information messages about the software being copied.

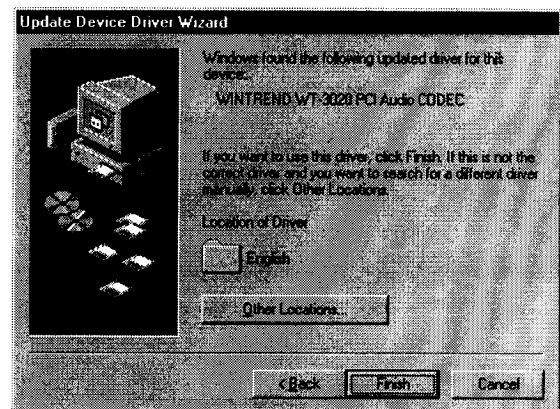8. When Windows prompts for the location of the driver,
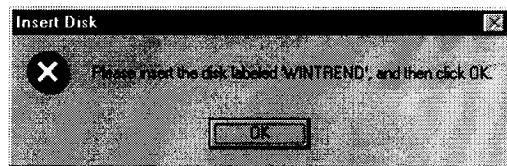
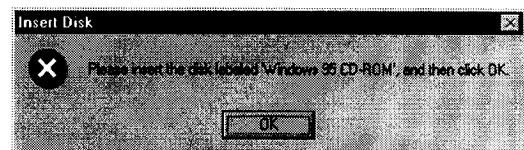9. Use the **Browse** function to locate the above directory.

10. Windows continues to locate more new hardware.

11. Click **Finish** to proceed.

12. Insert the location of the Windows 95® CD to finish installation.

Activating the Windows® Audio Mixer (Windows 95)

This procedure is used to verify or modify settings.

1. At the Windows® Taskbar, select **Start**, and then **Settings**, and then activate the **Control Panel**. In the Control Panel, double-click on **Multimedia**.


2. On the Audio Tab in the dialog boxes for both **Playback Preferred Device** and **Recording Preferred Device**, select WT-3020 for playback and recording, if necessary.

3. Set "Preferred Quality" to **CD Quality**, if necessary.

4. Set "Use preferred devices only" as **checked**, if necessary.

5. On the Windows task bar, click on the box **Show volume control**. The speaker icon will now appear on the Taskbar.
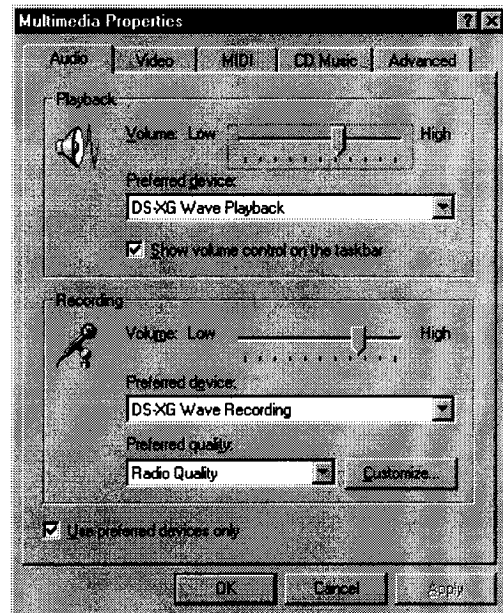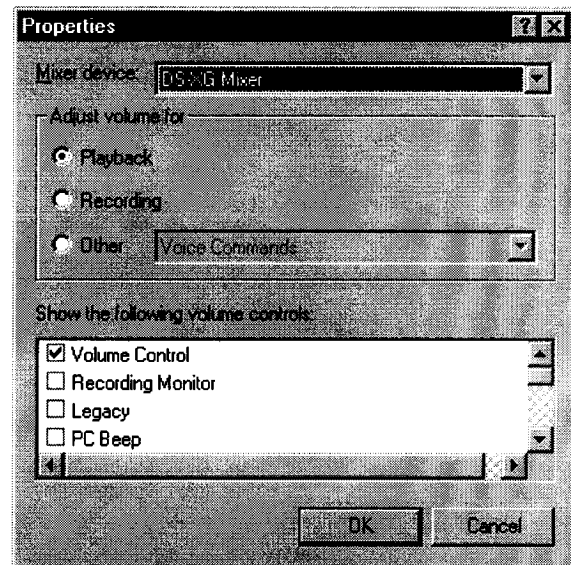
6. To display the Audio Mixer, double-click on the Volume icon,

- or -

7. Click on **Start** (at the Taskbar), select **Programs, Accessories, Multimedia**. Then click on **Volume Control**.
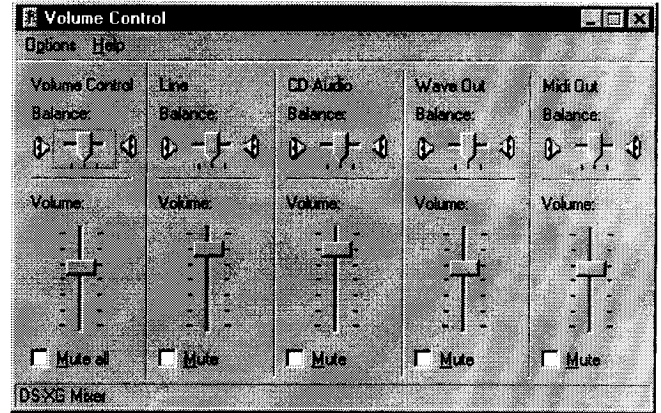
8. To enable additional (de-select) Playback or Recording Mixer sources, click on **Options**, then **Properties**. Check (un-check) the box associates to the desired device.

Setting Wintrend WT-3020 Properties (Windows 95)

The WT-3020 Properties dialog box provides three tabbed sections, used to verify or set Digital Audio and Wavetable values, and to enable or disable the Game Port.

1. At the Windows Taskbar, select **Start**, then **Settings**, and then click on **Control Panel**.

2. Double-click on the **Yamaha DS-XG** icon.

3. Click **Help** for details on each function.
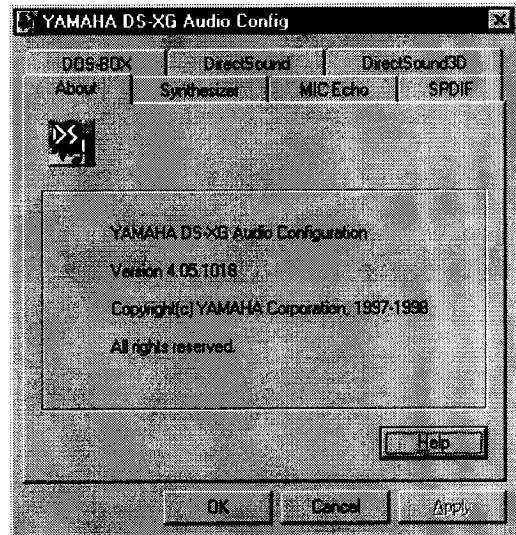
Uninstalling WinTrend WT-3020 from Windows 95

This operation should be used before installing later versions of Wintrend WT-3020 driver.

## Note: Ensure that the Control Panel is closed before Uninstalling WT-3020.

1. Insert the WinTrend-supplied CD into the CD-ROM drive before proceeding.

2. At the Windows Taskbar, select **Start/Run.** Use the **Browse** function to locate the program **Dsuninst.exe**, or simply type in the whole path D:\Win95\Uninstal\Dsuninst.exe, where D is the CD-ROM drive letter.
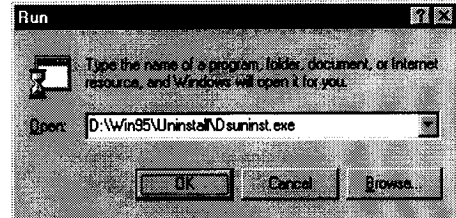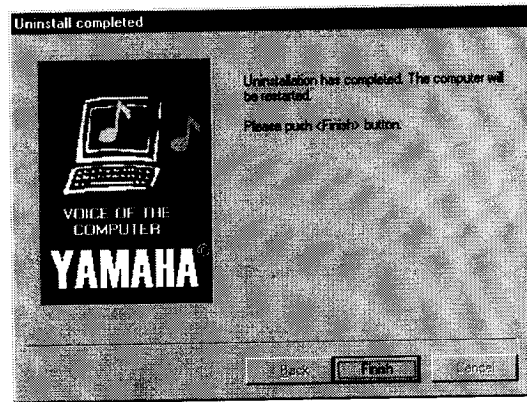
3. Click **Next** to proceed.
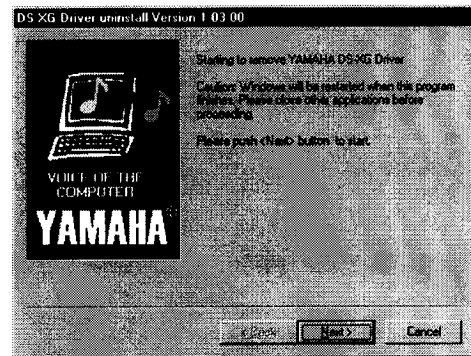
4. When prompt to remove joystick driver, select **No.**
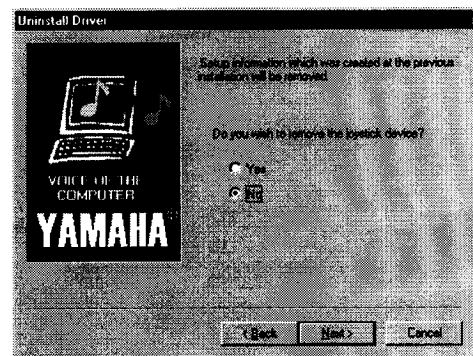
5. Click **Finish** when done.

6. Click **OK** when prompt to restart computer.